C-A OPERATIONS PROCEDURES MANUAL

14.30   C-AD/SMD OSH Management Plan for Accelerators, Experimental Areas, Shops and/or Offices

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Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Approved: _____*Signature on File*_____   _____
Collider-Accelerator Department Chairman   Date

Approved: _____*Signature on File*_____   _____
Superconducting Magnet Division Head   Date

R. Karol

14.30   C-AD/SMD OSH Management Plan for Accelerators, Experimental Areas, Shops and/or Offices

COLLIDER-ACCELERATOR DEPARTMENT/SUPERCONDUCTING MAGNET DIVISION OSH MANAGEMENT PLAN	**Completed by:** R. Karol **Date:** November 22, 2005

1. **Hazards at Accelerators, Experimental Areas and/or Shops:**
   - Ionizing Radiation
   - Non-Ionizing Radiation
   - Hazardous or Toxic Materials
   - Radioactive Materials
   - Electrical Energy
   - Explosive Gases and Liquids
   - Oxygen Deficiency
   - Kinetic Energy
   - Potential Energy
   - Thermal Energy
   - Noise
   - Confined Spaces
   - Cryogenic Temperatures

Hazards at Offices:
   - Housekeeping Hazards
   - Working Environment Hazards
   - Flammable or Combustible Materials
   - Electrical Energy
   - Hazardous or Toxic Materials

1. **Department Objectives:** *The following is prepared to meet core functions one and five of the Department of Energy's Integrated Safety Management System.* (See BNL FY06 Performance Evaluation and Management Plan, Appendix B, Performance Objective 5.1 and See OSH Management Review Record of Decision for 2005):

   1. Implement OSH items from FY05 Management Review Record of Decision
   2. Accident/Illness Reduction
   3. Complete OSHA violations
   4. OHSAS 18001 Policy Awareness
   5. Emphasize Traffic Safety
   6. Emphasize Safety Solutions Program
   7. Improve Industrial Hygiene Program Compliance
   8. Implementation of NRTL Program
   9. Improve Communications

3. **Department Targets** (See [BNL FY06 Performance Evaluation and Management Plan, Appendix B, Performance Objective 5.1](#) and See [OSH Management Review Record of Decision for 2005](#)):

    1. **Implement FY05 OSH items from Management Review Record of Decision**
   - Reduce injuries toward zero, DART ≤ 0.35 and TRCR ≤ 0.87
   - Repair Building 912 roof
   - Achieve OHSAS 18001 re-registration
   - Reduce repeated types of OSHA violations. The goal is zero repeat violations
   - Perform arc flash calculations, as per NFPA 70E, for safe work distances from electrical devices. Ensure the most pressing areas have a high priority
   - Perform more baseline industrial hygiene surveys in FY06 as per the ISM assessment
   - Remove potential sources of beryllium exposure at such as some types of non-magnetic tools
   - Promote the understanding that management recognizes the principles of a just culture and that increased awareness of injury statistics must not cause workers to be reluctant to report injuries
   - Review work at for physical capabilities of the worker with consideration of age of the worker, and implement ergonomic methods to reduce potential injuries
   - Request the Laboratory to promote the advantages of having employees participate in periodic physicals at OMC
   - Request the Laboratory to capture required physical exams and the completion of a Job Assessment Form (JAF) for each employee in the BTMS training database
   - Request the OMC to use electronic forms for the JAF, including last year's data on the form
   - Improve the pre-job briefing program to help reduce errors and injuries. Use Human Performance training to improve pre-job briefings so that briefings simultaneously promote less paper work, improve understanding of the tasks and create fewer errors
   - Increase ESHQ productivity by streamlining management systems
   - Improve housekeeping programs
   - Review Skill of the Worker jobs to ensure that they are low hazard jobs
   - Request the Laboratory to establish performance measures to improve fire protection and to speed fire protection improvements to provide a real commitment about fire alarm/detection upgrades
   - Support the Laboratory effort to qualify Radiological Control Technicians so that they in turn may support the IH baseline work in anticipation of the ISM review in 2006 and the implementation of 10CFR851
   - Request the Laboratory to ensure that Skill of the Worker job requirements as defined in SBMS are being appropriately followed by ensuring these jobs are low hazard
   - Establish targets for preparation for the ISM review
   - Coordinate and closeout OSHA violations with PE
   - Establish targets to address removal of aging cable in the AGS Ring
   - Establish targets to prepare ERL and EBIS authorization documents
   - Request the Laboratory to identify, prioritize, and track OSHA violations at the lab level, especially those concerning infrastructure

   - Reinforce worker involvement. For example, perform post job reviews and solicit

worker feedback on work permits, institute an annual Safety Week similar to the one performed in FY05
- Improve the C-AD worker self-evaluation program by giving workers specific charges
- If 10 CFR 851 is enacted, then implement policy to address any new or modified regulatory requirements. Establish targets to comply with 10CFR851
- Request the Laboratory to combine multiple OSH related management systems into one system in order to increase productivity
- Review Facility Use Agreements (FUA's), and update as necessary

2. **Accident/Illness Reduction**
- Explore a method that will be effective in an organization to investigate *near misses.*

3. **Complete OSHA violations**
- Implement the system for tracking closure of identified OSHA findings that do not have funding and to track newly self-identified pre-existing conditions that are not in compliance with OSHA regulations

4. **OHSAS 18001 Policy Awareness**
- Have employees take the OSH training course, TQ-Safeaware
- Provide at least one targeted Department-wide OSH Awareness initiative at the manager, supervisor and staff levels

5. **Emphasize Traffic Safety**
- Promote traffic traffic-law compliance and emphasize the importance of operating vehicles safely at a toll box meeting or safety talk

6. **Emphasize Safety Solutions Program**
- Submit two safety solution prevention project proposals to the S2 Council by January 31, 2006
- Submit success story from S2 Program funding to the BNL S2 program manager by September 15, 2006

7. **Improve Industrial Hygiene Program Compliance**
- Participate in surveillance programs initiated at the site level to ensure that the safe work practices are in place for particularly hazardous chemical substances
- Support the closure of relevant IH Assessment Corrective Action Plan Actions assigned to C-AD/SMD.

8. **Implementation of NRTL Program**
- Complete training of organization level NRTL SMEs
- Evaluate and document progress of existing equipment reviews as per the 5 year Plan
- Involve SME in Experimental Reviews and new Project Designs involving affected electrical equipment

9. **Improve Communications**
- Submit occupational safety & health examples to the lessons learned program

4. **OSH Performance Indicator(s):**
- Tier I inspection results
- Injury/ Illness Rates
- The number of Occurrence Reports and Critiques dealing OSH
- Completion of tasks listed in Section 10

5. Plan Description:

The OSH Management Plan is assured using the concepts of ISM through a documented program of safety reviews, risk assessments and work planning. OSH subject matter experts from the BNL Safety and Health Services Division (SHSD) serve on the C-AD safety committees. The C-AD safety review committees include the Accelerator Systems Safety Review Committee (ASSRC) and the Experimental Safety Review Committee (ESRC), which are the focal point for documenting safety issues for new or modified accelerators and experiments. The SMD safety review is performed by the BNL LESHC Cryogenic Safety Sub Committee. Radiological issues are reviewed by the Radiation Safety Committee (RSC) and the ALARA Committee. The physical plant is inspected regularly for OSHA compliance via the Tier 1 process. See the ESHQ Committees Web Page and the LESHC Web Page. It is the responsibility of the subject matter experts from SHSD to help review activities brought before the committees for implementation of OSH controls.

Day to day OSH issues and action items are addressed, as appropriate, through the work planning process documented in C-A-OPM 2.28 and C-A-OPM 2.29. For the SMD, work planning and control is documented in SMD OPM 2.12.

OSH issues and action items are addressed in offices through periodic ergonomic review as indicated in the Subject Area for Occupational Ergonomics. Housekeeping is a direct responsibility of all employees, and each employee is held accountable to do the things necessary to implement an effective housekeeping program (see Housekeeping Policy).

The Self-Assessment (SA) program, Worker Occupational Safety and Health Committee, OSH/EMS/SA Management Review, Tier I inspections, Facility-Area and Job Risk Assessments, and the annual OSH audit are also designed to help the meet the FY06 objectives in this Plan. Tracking and trending illness/injury rates as well as on time regulatory reporting contribute towards achieving OSH objectives and targets.

It is noted that the C-A/SMD OSH management system is also intended to capture the five core-functions and 10 Guiding Principles from DOE's Integrated Safety Management System Guide, DOE P 450.4.

- Core Function 1, Define Scope of Work
- Core Function 2, Analyze Hazards
- Core Function 3, Develop/Implement Controls
- Core Function 4, Perform Work and Operation Authorization
- Core Function 5, Feedback/ Improvement
- Guiding Principle 1, Line Manager Clearly Responsible for ESH
- Guiding Principle 2, Clear ESH Roles and Responsibilities
- Guiding Principle 3, Competence Commensurate with Responsibilities
- Guiding Principle 4, Balanced Priorities
- Guiding Principle 5, Identify ESH Standards and Requirements
- Guiding Principle 6, Hazard Controls Tailored to the Work
- Guiding Principle 7, Operations Authorization

6. Potential Impact(s):

- Unsafe acts could injure personnel
- Undocumented or unreported OSH events could violate DOE requirements
- Improper compliance with SBMS requirements could create hazardous work environments, which could injure workers

7. Legal and Other Requirements: ESH Standards Subject Areas
8. Operational Controls: See OSH Operational Controls Form
9. Budget: Operating Budget
10. Structure, Authorities, Responsibilities
Tasks, Person Responsible, Completion Dates

OBJECTIVE 1: Implement FY05 OSH items from Management Review Record of Decision

- Reduce injuries toward zero, DART ≤0.35 and TRCR ≤ 0.87 (**R. Karol 9/30/06**)
- Repair Building 912 roof (**A. Pendzick 9/30/06**)
- Achieve OHSAS 18001 re-registration (**E. Lessard 6/30/06**)
- Reduce repeated types of OSHA violations. The C-AD goal is zero repeat violations (**R. Savage 9/30/06**)
- Perform arc flash calculations, as per NFPA 70E, for safe work distances from electrical devices. Ensure the most pressing areas have a high priority (**J. Sandberg 9/30/06**)
- Perform more baseline industrial hygiene surveys in FY06 as per the ISM assessment (**P. Cirnigliaro 9/30/06**)
- Remove potential sources of beryllium exposure at C-AD such as some types of non-magnetic tools (**P. Cirnigliaro 9/30/06**)
- Promote the understanding that C-AD management recognizes the principles of a just culture and that increased awareness of injury statistics must not cause workers to be reluctant to report injuries (**E. Lessard 9/30/06**)
- Review work at C-AD for physical capabilities of the worker with consideration of age of the worker, and implement ergonomic methods to reduce potential injuries (**P. Cirnigliaro 9/30/06**)
- Request the Laboratory to promote the advantages of having employees participate in periodic physicals at OMC (**E. Lessard 9/30/06**)
- Request the Laboratory to capture required physical exams and the completion of a Job Assessment Form (JAF) for each employee in the BTMS training database (**E. Lessard 9/30/06**)
- Request the OMC to use electronic forms for the JAF, including last year's data on the form (**E. Lessard 9/30/06**)
- Improve the pre-job briefing program to help reduce errors and injuries. Use Human Performance training to improve pre-job briefings so that briefings simultaneously promote less paper work, improve understanding of the tasks and create fewer errors (**R. Karol 1/30/06**)
- Increase ESHQ productivity by streamlining C-AD management systems (**E. Lessard 9/30/06**)
- Improve housekeeping programs (**J. Scott, J. Durnan, 9/30/06**)
- Review Skill of the Worker jobs to ensure that they are low hazard jobs (**P. Cirnigliaro 1/30/06**)
- Request the Laboratory to establish performance measures to improve fire protection and to speed fire protection improvements to provide a real commitment about fire alarm/detection upgrades (**E. Lessard 9/30/06**)
- Support the Laboratory effort to qualify Radiological Control Technicians so that they in turn may support the IH baseline work in anticipation of the ISM review in 2006 and the implementation of 10CFR851 (**E. Lessard 12/30/05**)
- Request the Laboratory to ensure that Skill of the Worker job requirements as defined in SBMS are being appropriately followed by ensuring these jobs are low hazard (**R. Karol 2/28/06**)
- Establish targets for preparation for the ISM review (**E. Lessard 12/30/05**)
- Coordinate and closeout OSHA violations with PE (**D. Passarello 2/28/06**)
- Establish targets to address removal of aging cable in the AGS Ring (**J. Tuozzolo 12/30/05**)
- Establish targets to prepare ERL and EBIS authorization documents (**E. Lessard 2/28/06**)
- Request the Laboratory to identify, prioritize, and track OSHA violations at the lab level, especially those concerning infrastructure (**D. Passarello 3/30/06**)
- Reinforce worker involvement. For example, perform post job reviews and solicit worker feedback on work permits, institute an annual Safety Week similar to the one performed in FY05 (**E. Lessard, C. Porretto, 9/30/06**)
- Improve the C-AD worker self-evaluation program by giving workers specific charges (**J. Maraviglia 12/30/05**)
- If 10 CFR 851 is enacted, then implement policy to address any new or modified regulatory requirements. Establish targets to comply with 10CFR851 (**E. Lessard 9/30/06**)
- Request the Laboratory to combine multiple OSH related management systems into one system in order to increase productivity (**E. Lessard 3/30/06**)
- Review Facility Use Agreements (FUA's), and update as necessary (D. Savage, C. Porretto, **9/30/06**)

OBJECTIVE 2: Accident/Illness Reduction

- Explore a method that will be effective in an organization to investigate *near misses* (**R. Karol 8/30/06**)

<u>OBJECTIVE 3</u>: Complete OSHA violations   • Implement the system for tracking closure of identified OSHA findings that do not have funding and to track newly self-identified pre-existing conditions that are not in compliance with OSHA regulations **(D. Passarello 2/28/06)**

<u>OBJECTIVE 4</u>: OHSAS 18001 Policy Awareness
    • Have employees take the OSH training course, TQ-Safeaware **(J. Maraviglia 5/30/06)**
    • Provide at least one targeted Department-wide OSH Awareness initiative at the manager, supervisor and staff levels **(R. Karol 12/30/05)**

<u>OBJECTIVE 5</u>: Emphasize Traffic Safety   • Promote traffic traffic-law compliance and emphasize the importance of operating vehicles safely at a toll box meeting or safety talk **(P. Cirnigliaro 9/30/06)**

<u>OBJECTIVE 6</u>: Emphasize Safety Solutions Program
    • Submit two safety solution prevention project proposals to the S2 Council by January 31, 2006 **(J. Maraviglia 8/30/06)**
    • Submit success story from S2 Program funding to the BNL S2 program manager by September 15, 2006 **(J. Maraviglia 8/30/06)**

<u>OBJECTIVE 7</u>: Improve Industrial Hygiene Program Compliance
    • Participate in surveillance programs initiated at the site level to ensure that the safe work practices are in place for particularly hazardous chemical substances **(R. Savage 4/30/06)**
    • Support the closure of relevant IH Assessment Corrective Action Plan Actions assigned to C-AD **(P. Cirnigliaro 2/28/06)**

<u>OBJECTIVE 8</u>: Implementation of NRTL Program
    • Complete training of organization level NRTL SMEs **(J. Sandberg 9/30/06)**
    • Evaluate and document progress of existing equipment reviews as per the 5 year Plan **(J. Sandberg 9/30/06)**
    • Involve SME in Experimental Reviews and new Project Designs involving affected electrical equipment **(R. Karol 12/30/05)**

<u>OBJECTIVE 9</u>: Improve Communications   • Submit occupational safety & health examples to the lessons learned program **(D. Passarello 3/30/06)**